REMARKS

The following are applicant's response to issues raised in the Office Action. Claims 1-21 are pending. Claims 1, 8 and 11 have been amended. Claims 4 and 15-21 have been canceled. Claims 22-25 have been added.

Title Objection

The title was objected to as not being descriptive. Accordingly, the title has been amended to be more descriptive. Withdrawal of the title objection is respectfully requested.

Rejection under 35 USC 103

Claims 1-21, were rejected under 35 USC 103a over Li (U.S. 5,854,974) in view of Will (U.S. 4,224,572).

Li discloses a compensated ring mixer. Will discloses a broadband doubly balanced mixer having improved termination insensitivity characteristics.

Neither Li nor Will teach, disclose or suggest, either alone or in combination, as in amended claims 1 or 8, a double balanced mixer that has a intermediate frequency balun that is connected to the first and third output ports. The intermediate frequency balun has a fifth transformer with ninth and tenth windings and a sixth transformer that has eleventh and twelfth windings.

Will (U.S. 4,224,572) has baluns 14 and 15 (figure 1) connected to the intermediate frequency port (column 4, lines 21-39. The baluns have a conductor 45,

54 with a tapered ground plane 48, 57. The conductor is a tapered signal conductor balanced microstrip transmission line. It is not a transformer with a winding.

If the combination of Li and Will were made, it would require the baluns to be tapered signal conductor balanced microstrip transmission lines, which is very different than the transformers with windings that are used in the present invention.

Further, there is no suggestion to combine the references in the manner indicated in the office action. As the court of Appeals for the Federal Circuit has set forth, even if a prior art reference could be modified to construct an applicant's invention, the modification is not obvious unless there is a suggestion in the prior art. *In re Laskowski*, 10 USPQ2d 1397, 1398 (Fed. Cir. 1989). There is no suggestion to modify Li, to include a balun connected between the diode rings and the intermediate frequency port.

Dependent claims 2-3, 5-7 and 9-14 depend from independent claims 1 and 8, respectively and add additional patentabale features and are allowable therewith.

Neither Li nor Will teach, disclose or suggest, either alone or in combination, as in new claims 22 or 24, an intermediate frequency balun that is connected with the first and second diode rings. The intermediate frequency balun has a first and second transformer and an output port. The first transformer has a first and second winding. The second transformer having a third and fourth winding.

Will (U.S. 4,224,572) has baluns 14 and 15 (figure 1) connected to the intermediate frequency port (column 4, lines 21-39. The baluns have a conductor 45,

54 with a tapered ground plane 48, 57. The conductor is a tapered signal conductor balanced microstrip transmission line. It is not a transformer with a winding.

If the combination of Li and Will were made, it would require the baluns to be tapered signal conductor balanced microstrip transmission lines, which is very different than the transformers with windings that are used in the present invention.

Further, there is no suggestion to combine the references in the manner indicated in the office action. As the court of Appeals for the Federal Circuit has set forth, even if a prior art reference could be modified to construct an applicant's invention, the modification is not obvious unless there is a suggestion in the prior art. *In re Laskowski*, 10 USPQ2d 1397, 1398 (Fed. Cir. 1989). There is no suggestion to modify Li, to include a an intermediate frequency balun that is connected between the diode rings and the intermediate frequency port.

Dependent claims 23 and 25 depend from independent claims 22 and 24, respectively and add additional patentabale features and are allowable therewith.

A notice of allowance is respectfully requested.

Respectfully submitted,

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